



## **Listing of Claims**

1. (Currently Amended) A method for [optimizing the fit of a shell of]

fabricating the shell for an in-the-ear hearing apparatus comprising at least one component or structural feature, comprising [the steps of]:

obtaining a digital representation of a portion of the ear canal and/or a portion of the outer ear;

creating a digital representation of a shell conforming to the digital representation of the ear canal and the outer ear <u>as applicable</u>, the step of creating a digital representation of a shell comprising [the step of] creating at least a digital representation of an outer surface of the shell; and

modifying

at least one physical dimension of at least a portion of the digital representation of the shell; and/or

the dimensions and/or position of at least one component or structural feature.

- (Currently Amended) A method as set forth in claim 1, where the step of creating a digital representation of the shell comprises [the step of] reducing the number of points in the digital representation of the shell.
- 3. (Currently Amended) A method as set forth in claim 1, where the step of modifying at least one physical dimension of at least a portion of the digital representation of the shell comprises [the step of] expanding, reducing, tapering, or pivoting at least a portion of the shell.

- 4. (Currently Amended) A method as set forth in claim 1, where the step of modifying at least one physical dimension of at least a portion of the digital representation of the shell comprises [the step of] dividing the shell into a plurality of segments and expanding, reducing, tapering, or pivoting one or more of the segments.
- 5. (Currently Amended) A method as set forth in claim 1, where the step of modifying at least one physical dimension of at least a portion of the digital representation of the shell comprises [the step of] compensating for anatomical irregularities in the outer ear or the ear canal.
- 6. (Currently Amended) A method as set forth in claim 1, where the step of modifying at least one physical dimension of at least a portion of the digital representation of the shell comprises [the step of] creating a seamless interface between the shell and a faceplate.
- 7. (Currently Amended) A method as set forth in claim 1, where the step of creating a digital representation of the shell comprises [the step of] creating a faceplate integral with the shell.
- 8. (Currently Amended) A method as set forth in claim 1, further comprising

  [the step of] positioning one or more components or structural features in or on the shell.

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9. (Currently Amended) A method as set forth in claim 8, further comprising [the steps of]:

reducing the volume of the shell incrementally until at least one of the components in the shell collides with another component or the internal wall of the shell; and enlarging the volume of the shell until the collision is alleviated.

- 10. (Currently Amended) A method as set forth in claim 1, further comprising

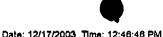
  [the step of] superpositioning the shell in the ear canal and in the outer ear as applicable.
- 11. (Currently Amended) A method as set forth in claim 1, further comprising [the step of] simulating the insertion of the shell into the outer ear and the ear canal.
- 12. (Currently Amended) A method as set forth in claim 1, further comprising [the step of] fabricating a hearing instrument by direct manufacture.
- 13. (Currently Amended) A method as set forth in claim 1, further comprising [the steps of]:

fabricating a hearing instrument from the digital representation of the shell;

fitting the instrument in the user's ear;

generating an identical virtual apparatus; and

in response to the fitting of the instrument in the user's ear, further modifying at least a portion of the shell to optimize the fit, comfort, and/or performance of the apparatus.



14. (Currently Amended)

A method as set forth in claim 1, further comprising

## [the step of]:

generating an identical virtual apparatus; and fabricating a hearing instrument [;] \_\_

- 15. (Currently Amended) A method as set forth in claim 1, further comprising [the step of] applying an identifier to the shell.
- 16. (Currently Amended) A method for optimizing [the fit of] a digital representation of an in-the-ear hearing apparatus comprising a shell and at least one component or structural feature, comprising [the steps of]:

modifying at least one physical dimension of at least a portion of <u>the digital</u> representation the shell; and/or

modifying the dimensions and/or position of at least one component or structural feature.

- 17. (Currently Amended) An apparatus for **[optimizing the fit of a shell of] fabricating the shell for** an in-the-ear hearing instrument comprising at least one component or structural feature, comprising:
- a scanner for obtaining a digital representation of a portion of the ear canal and optionally a portion of the outer ear; and
- a processor for creating a digital representation of the shell that conforms to the scanned digital representation of the ear canal and the outer ear as applicable, the processor comprising

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means for creating at least a digital representation of the shell; and means for modifying

at least one physical dimension of at least a portion of the digital representation of the shell; and/or

the dimensions and/or position of at least one component or structural feature.



- 18. (Original) An apparatus as set forth in claim 17, where the processor comprises means for reducing the number of points in the digital representation of the shell.
- 19. (Original) An apparatus as set forth in claim 17, where the processor comprises means for expanding, reducing, tapering, or pivoting at least a portion of the shell.
- 20. (Original) An apparatus as set forth in claim 17, where the means modifying at least one physical dimension of at least a portion of the digital representation of the shell comprises means for dividing the shell into a plurality of segments and expanding, reducing, tapering, or pivoting one or more of the segments.
- 21. (Original) An apparatus as set forth in claim 17, further comprising means for fabricating a hearing instrument by rapid prototyping or direct manufacture.